

THE MEDICAL AND SURGICAL REPORTER.

Whole Series, }
No. 384. }

PHILADELPHIA, MARCH 29, 1862.

{ New Series,
Vol. VII. No. 26. }

ORIGINAL DEPARTMENT.

LECTURES.

Lectures on Orthopædic Surgery.

Delivered at the Brooklyn Medical and Surgical Institute.

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MALPOSITION OF THE KNEE-JOINT FROM BURSAL DISTENTION.

Bursitis, as the remote cause of malposition of the knee-joint, has, heretofore, been entirely disregarded. Cases of this kind may not be numerous, but they are certainly very intricate, and not rarely baffle the most sagacious and skillful surgeon.

Not every bursitis, in the vicinity of the knee-joint, is alike capable of exercising the same prejudicial effect upon its position. The so-called housemaid's knee (*Hygroma patellare*) may acquire a considerable size, without disturbing in any material degree the position of the articulation. Inflammation and distention of the slides at the tendons of the hamstring muscles are equally ineffective, in as far as the position of the knee is concerned. But if the subcrural bursa is affected and greatly extended by an excess of its secretion, the mechanical consequences are very great. It will be remembered that the aforesaid bursa is placed in close approximation to the knee-joint in front of the femur, and designed to facilitate the movements of the quadriceps muscle. Sometimes there is a communication between the articular cavity and this bursa, which tends to enhance the pathological importance of the latter. In each anatomical relation the inflammation of the one may easily extend to the other, and the copious collection of

fluid in the joint may be forced into the bursa, and vice versa. The extraordinary cases of hydrarthrosis of the knee, mentioned by Dupuytren, Boyer, and others, not unlikely implicated the subcrural bursa, which may be deduced from the extent of the swelling in front of the thigh.

If, however, the *completely isolated* bursa should be the seat of subacute inflammation, and become distended by a large quantity of fluid, as we have observed it in two instances, the bursa is converted into a roll that raises the quadriceps off the femur, displacing it laterally, at the same time changing the direction and effects of its action. This is more readily the case when the bursal sac has become thickened by the morbid process, and distends chiefly in one direction. It assumes, then, the shape of a hemisphere, with its broad base firmly attached to the periosteum.

While the quadriceps acts over this as over a pulley, its physical power is greatly enhanced by this mechanical arrangement. But the increase of its power is the very reason why it gradually slides into a lateral position on the outer aspect of the thigh, drawing the patella along toward and upon the external condyle of the femur, still deriving mechanical advantages from the bursal tumor. By this shifting of the muscle the quadriceps becomes *acting flexor* of the leg, and its lateral location has the simultaneous effect of *inflexing the knee toward the other extremity*. The remote consequences may be easily realized. The extremity, being bent and knock-kneed, is thrown out of its perpendicular, the internal lateral ligament of the knee-joint has to bear the weight of the body, and becomes inflamed and excessively painful; the inflammation extends over the joint, adhesions of the articular faces ensue, and the member becomes, at last, useless for the purpose of locomotion.

There is yet another peculiarity in such cases that well deserves to be mentioned, namely, the *extraordinary hardness* of the bursal tumor, so as to simulate bone itself. This very hardness it is that often misleads the best surgeons to an erroneous diagnosis, and deprives the patient of the chances of relief. The following history of a case of this kind that came under our charge will exemplify the difficulties with which the like cases are surrounded, and the treatment pursued will serve as a guide in similar maladies: The patient (Peckner) was a young man, twenty-two years of age, when, three years ago, supported by two crutches, he limped into our office. Although of tolerably strong frame, he appeared much reduced in weight, greatly debilitated in vital powers, with a pallid and melancholic countenance. The marks of intense and protracted suffering, mixed with utter hopelessness, were deeply engraved upon his physiognomy; both from the constant pain and the deformity of his extremity. The patient related his case in the following words: "At the age of eleven I received an injury upon my left knee, which troubled me for three successive years, without, however, depriving me of locomotion. At that period, my father, a sea-captain, took me on a voyage for the benefit of my health. At sea I had repeated falls, not unlikely concerning also my weak joint. One day I was engaged in driving nails, the hammer slipped, and gave me a hard blow in front of my thigh, right above the left knee. The pain I experienced at the time was keen, yet tolerable, and, at any rate, bore no comparison with the agony that ensued very soon after. Moreover, my knee swelled considerably, assuming, at the same time, a bent and knock-kneed form. I cannot place the affected leg upon the ground without the most intense pain at the inner side of the joint and upward, and I have, therefore, to swing it with the aid of crutches. In touching my leg accidentally, and during sleep, when I turn in bed, the agony is great and almost unbearable. During the eight years that I have been an invalid, my father has taken me to, at least, a dozen surgeons of high repute, both in Europe and the United States, and their conjoint advice was 'amputation.' I could not familiarize myself with the idea of becoming mutilated, and despite the unanimous professional advice, I still nurtured the hope of attaining relief without loss of limb." The patient concluded his dismal history with the laconic question, "Can you cure me?"

The photograph which we invite you to inspect gives an accurate representation of the deformity of the patient, Fig. 30. You notice in front of the

Fig. 30.



left thigh, close to the knee-joint, an oval, circumscribed, and prominent tumor, 9" \times 4" in size. Said tumor presented a smooth surface, a broad base, and everywhere the same hard, unyielding surface. It seemed to be made up of bony material. There was no discoloration nor tenderness observable, nor could the tumor be moved at its base, whereas the integuments could be readily shifted. The only tender spot of the affected extremity was at the inner aspect of the knee-joint. The latter was ankylosed by fibrous bands, allowing still a moderate mobility. The biceps femoris was contracted; the leg was rotated outward at the knee-joint, and the toes had thus become everted. The entire extremity was moderately attenuated. This completes the picture of the case.

One thing seemed to be certain, namely, that the tumor was accountable for the existing deformity, and that the latter was to be identified with the mechanical effects of the lateral displacement of the quadriceps muscle. The other symptoms characterizing this case could be readily accounted for as the remote consequences of the existing mechanical derangement. The inflammation of the knee-joint might have ex-

ceeded the limits of fibrous adhesion but for the timely suspension of its use. But what was the nature of the tumor, and was it susceptible of removal? That was the all-important question.

The apparently hard texture of the morbid growth suggested bony structure. Was it an osteoid? We thought not. Because the patient exhibited no *cachectic* signs. In his family no *hereditary* taint could be traced. Nor could the long existence of the tumor be reconciled with a cancerous neoplasm. Above all, the growth was *too firm* for osteoid.

Was it a periostosis? This diagnosis, though otherwise plausible, could not be adopted, on account of the regular form and the extent of the tumor, chiefly in one direction. Moreover, periostosis was certainly incompatible with the broad basis of the growth, instead of encircling more or less the entire femur.

Was it a bone abscess? No! the bone would have distended its walls in all directions, and become rarified and soft by such a size.

It might be sarcoma or fibrous growth but for the hardness, smoothness, regularity of form, and its scanty endowment with vessels. We admit, however, that neither of those differences would be decisive in differential diagnosis, as we now understand the pathological condition of the case, for the same mechanical influence that gave the hard feel to liquid is likely to produce the same effect upon semi-solid structure.

The evidently traumatic cause, the gradual increase, the regular form of the tumor, and the anatomical region pointed directly and conjointly to the distention of the subcutaneous bursa. Yet there was no fluctuation, and that ominous hardness was left unaccounted for. Notwithstanding the discrepancy, we commenced most carefully to explore our ground, with the hope of detecting fluctuation; for the rather indefinite supposition suggested itself, that the *resistance of the vagina femoris* might both render the tumor hard and obscure its fluctuation.

At the inner and lower aspect of the growth, a branch of the saphena magna perforated the aponeurosis and dipped into the depth. There we felt some elasticity and very indistinct fluctuation, sufficient evidence of fluid, at any rate, to warrant explorative puncture. The patient, a very intelligent young man, having realized the probable character of his case, and deriving new hope from the proposed proceeding, readily consented to the exploration.

After having made the necessary preparation, we proceeded next day, with some of our professional friends, to the patient's dwelling. We must confess that we met with but little encouragement for the operation, either on the part of our colleagues or the relatives of our patient. The former *dissented* in toto from our suggestive diagnosis, and the latter presented the authority of the best surgeons of the country as objection to any other proceeding short of amputation of the thigh.

The trocar being inserted, about $\frac{3}{4}$ of a straw-colored and alkaline fluid was withdrawn, whereupon the tumor collapsed. On careful examination, the empty sac and its contours could still be discerned; but, of course, the previous hardness had entirely vanished.

Having thus verified our diagnosis, we proceeded with the second part of the programme, *in dividing the outer hamstring, breaking up all articular adhesions, and in fully extending the extremity*. A few minutes served to change the condition of the patient, and infused him and his friends with new hopes for the future. It could hardly be anticipated that pressure alone would suffice to prevent the reaccumulation of the bursal fluid. In order to close up the old depot, we were induced to inject tincture of iodine.

That operation was followed with violent inflammation and suppuration of the bursa. When, at last, the cavity had closed, the quadriceps muscle was so firmly agglutinated to the thigh-bone that it seemed indifferent whether the articulation of the knee-joint was re-established or not. The patient, desirous for active life, declared himself quite contented with a straight, useful, and painless, though inflexible extremity, with which he is now able to walk his forty miles a day.

The presented photograph, Fig. 31, is the appearance of the patient at the discharge from our treatment. At that time, we supported his extremity with a straight apparatus, with which the patient now dispenses.

FIG. 31.



That the hardness of the tumor was simply caused by the constraint and resistance of the vagina femoris, will be admitted without further dispute. And we noticed the *same symptom* in the case of Mr. A., one of the great hotel proprietors of New York. We need hardly say that the correct diagnosis of Mr. A.'s case depended likewise on correct discernment of the tumor, about whose character and structure conflicting opinions and apprehensions had been advanced. We were fortunate enough to aid in the diagnosis, and to contribute an indirect share to his relief.

PARALYTIC CONTRACTION OF THE KNEE-JOINT.

This subject will occupy our attention but for a brief space of time, having already, in a previous lecture, advanced the general physiological and pathological principles appertaining to motor paralysis; the symptoms of which are so uniform that the special parts affected make very little difference.

The more common paralytic deformity at the knee is that of flexion, although combinations with ad- or abduction are observed. The degree of flexion varies greatly from a slight deviation to an acute angle, so as to bring the foot in contact with the nates. It is not often that we meet with this simple deformity; it mostly appears in conjunction with others in the same or both extremities, from the hip downward to the toes. Distortions of this kind deprive the patient completely of not only locomotion, but constitute an unsightly appearance. Fortunately they are not very frequent, although they may be seen in large cities in quite a good number, where they collect for the purpose of invoking the sympathies of the charitably disposed. For this reason, they are exaggerated by artificial appliances. In New York, and still more in London and Paris, these wretched individuals may be seen on the sidewalk, walking on their hands and buttocks, while their legs, thin as broomsticks, are buckled to their thighs.

Most of these cases commencing in early childhood, and depending on maladies of the nervous centers—more especially of the spinal cord—spontaneously and gradually improve. Sensation may return, and the non-contracted muscles may resume their motor office; but the contractions remain, and with them the attenuation of the extremities and their arrested growth. The symptoms attending these cases depend, of course, more or less on the degree, extent, and duration

of the paralysis. If the motor paralysis be complete, and of long standing, the extremity is shriveled to almost nothing; its contours are destroyed, and its circumference may be reduced to little more than that of the bones. The condyles and epiphyses protrude; the skin is wrinkled, flabby, cold, dry, and mottled; the paralyzed muscles seem to be almost annihilated, and the contracted ones appear like tense cords between their respective points of insertion; the deformity is in accordance with the group of muscles contracted. Thus if the adductor muscles of the thigh be contracted, the extremities are firmly pressed against each other, impeding thereby the discharge of urine, and, in females, the menstrual flow, producing constant excoriations at the groins. If the flexors of the thigh be likewise implicated, the limbs are drawn up, the knee approximating the face. If talipes equinus be coexisting with contractions of the knee-joint, the plantar surfaces of the feet are pressed against the nates, etc. Modifications in the deformity are numerous, and may be easily imagined. The only muscles which are exempt from the paralysis of the lower extremities are the psoas major and the iliacus; perhaps, from the fact that at least one of them derives its nervous endowment from the lumbar nerves. Their physiological integrity is exceedingly valuable for locomotion by the aid of artificial appliances.

The bones are, for the most part, retarded in their development, their epiphyses being rather smaller, notwithstanding their protrusion. Occasionally we find the bones bent, and their articular surfaces altered, as the necessary consequence of a persistent muscular traction and position.

The prognosis of the like cases is self-evidently a bad one. If it be already impossible to relieve the central disease after a long existence, it is alike impossible to re-establish the muscular structure which has become deteriorated into adipose or fibrous tissue. Nor can we, in any way, influence the arrested growth and development of the limb. All that art can do for such cases is the relief of the existing contractions by tenotomy, bringing the extremities into a straight position. This should be distinctly understood, and no encouragement held out beyond that.

After the extremities have been straightened, an apparatus may be affixed to the body, commencing with a belt round the pelvis, and a straight brace down to the foot firmly fixed to a

boot. The limb, of course, is to be fastened to the brace by transverse bands. With the aid of crutches, the patient may use his extremities to a moderate degree. If, however, the muscular structure be only in part paralyzed, the apparatus may be made with joints, and supplied with India-rubber bands longitudinally fixed, to be used as muscular substitutes.

Whether extension should be employed previously to the application of mechanical means, or whether the local treatment of the paralysis should be resorted to, depends entirely on the feature of the case. At all events, while using the mechanical appliances, the limb should be kept warm by a flannel bandage or worsted stocking, and carefully protected against chafing.

To be continued.

COMMUNICATIONS.

The Insertion of the Capsular Ligament of the Hip-Joint, and its Relation to Intra-Capsular Fracture of the Neck of the Femur.

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DISCUSSION UPON THE FOREGOING PAPER IN THE SURGICAL SECTION OF THE NEW YORK ACADEMY OF MEDICINE. DR. JAMES R. WOOD, CHAIRMAN.

Stated Meeting, January 24, 1862.

Dr. George K. Smith, in replying to the remarks made at a previous meeting by Prof. Post, commenced by quoting the following from that gentleman:—

"The fifth proposition seems to me to be founded on an error, or at least on a statement which has not been demonstrated to be a fact. The statement to which I allude is this: when the cervix femoris has been fractured, and the fragments have reunited, and the cervix is found on post-mortem examination to be shorter than that of the opposite side, the absorption to which the shortening is due preceded the union of the fragments. It appears to me more probable that the union in such cases takes place in the first instance, and that the interstitial absorption is a subsequent event. This view would seem to be supported by the fact that before union has taken place the fragment connected with the head of the bone has a very imperfect supply of the veins or lymphatics through whose agency the absorption would be likely to occur."

It is very true that the fragment of the neck

attached to the head of the bone is, to a great degree, deprived of its arteries and veins by the accident. If the force of the blow producing the fracture be sufficient to rupture the cervical ligament, and separate the fragments, the upper fragment is then supplied with blood by one, and in some cases two small arteries, which pass through the ligamentum teres to the head of the bone. The elements of nutrition being thus imperfectly supplied to this fragment, we infer that it will be absorbed with greater rapidity than the femoral fragment, which, after the fracture, has an abundant supply of blood. This will certainly be the case, provided that each fragment of the neck has a sufficient number of veins and lymphatics to accomplish its absorption. I have often examined that branch of the obturator vein which returns the blood from the head of the bone, and have usually found it about the size of a crow's quill; and while it is admitted that this is quite unequal to the number and caliber of the veins supplied to the femoral fragment of the neck, it must be remembered that *absorption through this channel is not held in check by the antagonistic force of an abundant nutrition.*

Prof. Post assumes, as a fact, that "before union takes place the head of the bone has also a very imperfect supply of lymphatics, through whose agency the absorption would be likely to occur." It appears that the minute distribution of the lymphatic system is yet imperfectly understood by anatomists. Some authors state that bone tissue is not supplied with lymphatic vessels, while others claim that it is. Cruveilhier states that

"Lymphatic vessels have not yet been actually demonstrated in the bony tissue, but it is probable that they really exist there; at least the process of nutrition in bones and certain morbid phenomena which they present lead to the belief of their existence."* "Cruikshank, Soemmering, and Bonamy have succeeded in tracing them into the interior of the bones."† "Lymphatic vessels are found in most tissues and organs which receive blood, but have not been detected in the substance of the brain and spinal cord, in the eyeball and labyrinth, nor the placenta and its membranes. The principal lymphatic vessels are more numerous than the arteries and veins, but very much finer. They are long, threadlike, transparent tubes of difficult detection, unless some colored substance is injected into them. The mode in which the lymphatics commence has been imperfectly ascertained, in

* Cruveilhier's Anatomy, p. 14.

† Pancoast's Wistar, vol. II., p. 337.

consequence of the extreme tenuity and transparency of the vessels and the impossibility of injecting colored liquids in a direction opposed to the opening of the many valves which occupy the larger branches. For the most part they appear to originate in close capillary nets, intercalated with the sanguiferous capillaries, but having no communication with them.* "The lymphatics are found in nearly every texture and organ of the body, with the exception of the substance of the brain and spinal cord, the eyeball, cartilage, tendon, membranes of the ovum, the placenta, and umbilical cord. Their existence in the substance of bone is doubtful."†

If, from the conflicting statements of authors concerning this subject, we are led to believe that lymphatic vessels have not yet been discovered in the bony tissue, we are by no means at liberty on that account to deny that they really exist; for this summary method of disposing of the question would exclude further investigation, which might lead to their discovery.

Dismissing this point, we notice that Cruveilhier states that synovial membranes are abundantly supplied with lymphatic vessels, thus: the origin of the lymphatics can be shown only upon free surfaces, such as the mucous membranes, the skin, the serous and synovial membranes, and the lining membranes of arteries and veins. All the lymphatics arise by a net-work of such tenuity that when injected with mercury the whole surface appears changed into a metallic layer. The synovial membranes may be injected with the greatest facility, either near the cartilages where they are more tense than in other parts, or upon the ligaments to which they adhere.‡

If synovial membranes are thus abundantly supplied with lymphatics, it can hardly be doubted that there are lymphatic vessels in the ligamentum teres which may become active agents of absorption after fracture of the neck of the femur; since the ligamentum teres is enveloped throughout its extent by synovial membrane. Gray states that "the deep lymphatics accompany the deep arteries," and that "the lymphatics of any part or organ exceed in number the veins, but in size they are much smaller."

If now the lymphatics originate in accordance with Leidy's opinion, "in close capillary nets, intercalated with the sanguiferous capillaries," and pass in a direction from without inward, ac-

companying the arteries, we can see no good reason why that branch of the obturator artery which supplies the head of the bone with blood should form an exception to the rule. With our present imperfect knowledge concerning the origin and distribution of the lymphatics, it appears to me that the statement of Prof. Post, that "before union takes place the head of the bone has a very imperfect supply of the veins or lymphatics through whose agency the absorption would be likely to occur," is a statement which requires further anatomical investigation before it can be admitted as a fact.

Whatever the agency may be by which the result is accomplished, absorption of the head and neck of the bone does actually occur, without any apparent attempt at union of the fragments; and the rapidity of the absorption is sometimes so great that nearly the whole of the neck has been known to be removed in less time than is required for bony union of this fracture. Thus:—

"The superior fragment of the broken cervix usually disappears to the level of the brim of the acetabulum, either in consequence of the action of the absorbent vessels, or by the friction of the broken surfaces, or perhaps it is due to a combination of both these causes. The absorption, however, sometimes extends much further; I have seen half of the globular head of the bone thus removed, and a case has been recorded in which the head of the bone was completely absorbed. * * * In old cases the femoral fragment is likewise absorbed to a greater or less extent; sometimes it disappears entirely to its base, and the portion of the shaft from which, in its normal state, it springs, presents a smooth and even surface, limited by the trochanters and their connecting lines. * * * The absorption of the lower fragment is sometimes effected with extraordinary rapidity; in case No. 9, the shortening of the limb, which immediately followed the receipt of the injury, was only a quarter of an inch, but after the expiration of six weeks it amounted to one inch and a half; and in case No. 12, the removal of the greater part of the neck of the bone was accomplished in less than a month."*

Here we see the effect, and from the effect we infer the cause which produced it; for, although we may be unable to trace the immediate connection of cause and effect, we know that nature never accomplishes any purpose without employing means which are adequate to the ends produced. If after fracture of the neck the whole

* Leidy's Anatomy, p. 428.

† Gray's Anatomy, p. 425.

‡ Cruveilhier's Anatomy, p. 612.

* Smith on Fractures, p. 42.

head be removed by absorption, without any attempt at union of the fragments, we are forced to conclude that the supply of veins and lymphatics to the head of the bone is sufficient to produce this result, since it is through the agency of these vessels that absorption occurs, and we can therefore see no physiological necessity for the absorption of the neck to be preceded by bony union of the fragments. I would not, under any circumstances, knowingly put a wrong construction upon the language of any surgeon, but, if I correctly understand the following proposition of Prof. Post, it does not seem to me to be strictly in harmony with his criticism of my fifth proposition:—

"In intra-cervical fractures, whether bony union takes place or not, the cervix femoris becomes greatly shortened by interstitial absorption, and, after the lapse of several weeks or months, the limb may be shortened to the extent of two inches or more."

Prof. Post states that in order to demonstrate the truth of my fifth proposition "it would be necessary to present a series of preparations taken from patients who had survived intra-capsular fractures for variable but known periods antecedent to union, and to show that there was a progressive shortening of the neck before the occurrence of union." It appears to me that it would be almost impossible to obtain such a series of preparations, since they must be procured immediately after union, else Prof. Post would claim that this shortening of the neck by absorption did not occur till after the fragments were united. They cannot be obtained till after the death of the patient, and it will seldom happen that a patient, whose vital powers are sufficient to secure bony union of a fracture of the neck of the femur, will die immediately after union has occurred. Again, if it were possible to procure such a series of preparations, they would not be likely to illustrate "a progressive absorption of the neck," since the whole of the neck is, in some cases, removed in a few weeks or months, while in other cases as many years will transpire with a portion of the neck still remaining. The following extract, from Mr. Howship's report of "cases of fracture of the neck of the femur,"* will exhibit this fact:—

"1. Age seventy-six; lived three weeks after the fracture; neck shortened half an inch; no union. 2. Age seventy-five; lived two months

after the fracture; neck shortened three-quarters of an inch; slight fibrous union. 3. Age seventy-eight; lived five months after the fracture; neck still undergoing absorption. 4. Age sixty-six; lived five months after the fracture; the neck completely removed by absorption; firm fibrous union. 5. Age seventy-nine; lived ten months after the fracture; neck nearly absorbed, with no attempt at union. 6. Age seventy-nine; lived twenty-two months after the fracture; neck entirely gone; no union. 7. Age seventy; lived eight years after the fracture; neck nearly absorbed; firm fibrous union. 8. Age fifty; lived fourteen years after the fracture; neck about half removed by absorption; the fragments not united."

In the last case the patient was not as old by many years as either of the patients mentioned in the preceding cases, and this fact would suggest a more abundant nutrition of the fragments, which accounts, to a great degree, for the slower progress of their absorption. Since the last meeting of the Section I received a letter from Dr. Asa Horr, of Dubuque, Iowa, informing me that he had lately obtained a specimen of fracture of the neck of the femur. He gave a brief history of the case, with a description of the specimen, and said, that, if I should "regard the specimen as of any value to science," he would forward it to me on receipt of my reply. Through his kindness I am enabled to exhibit the specimen this evening. It is from a patient fifty-eight years of age, who died a little more than a year after the occurrence of the fracture. The fragments were not united. I have macerated the specimen, and you will observe that all of that portion of the neck attached to the head of the bone has been removed by absorption, while a portion of the neck, about half an inch in length, still remains attached to the shaft. The specimen is interesting as a further illustration of the fact that absorption after fracture of the neck does not proceed with any regularity, a given distance in a given length of time, but generally progresses with greatest rapidity in patients who suffer from this fracture at an advanced period of life, when the elements of nutrition are very imperfectly supplied.

It appears to me that the opinion of Professor Post, that "the union takes place in the first instance, and that the interstitial absorption is a subsequent event," is an opinion which necessarily involves the disastrous consequence of disunion of the fragments, as one of the results of such absorption, since parts newly formed are more readily attacked by absorption than those

* *Medico-Chirurgical Review*, (New Series,) vol. xxiv. p. 102.

of longer standing; and we must, therefore, expect that the callus by which the fragments were united will be first attacked, and that its absorption will result in disunion long before the whole of the neck shall have been removed. The following is interesting as an illustration of this point:—

"The callus is subject to *softening*, disintegration, and absorption, if not also to the fatty degeneration. * * * Occasionally the absorption can be distinctly traced to the inordinate use of mercury, carried to profuse salivation; or it may be owing to a syphilitic taint of the system, especially when this affection has reached its third stage, in which the bones and periosteum are so constantly and often so seriously involved. But the most common cause, perhaps, of all, is an impoverished and diseased state of the blood, from the use of improper food, and especially from the want of a sufficient quantity of fresh vegetables and subacid fruits. The influence of ill health arising from this cause upon the condition of the callus was strikingly exemplified in Lord Anson's voyage to the Pacific Ocean, in which many of the crew suffered severely from scurvy. It was noticed that those who had formerly had fractures were attacked with absorption of the callus, speedily terminating in disunion of the ends of the broken bone. Cicatrices, whether the result of the healing of wounds or of ulcers, experienced a similar fate, the parts breaking out into open sores, remarkably pale, languid, flabby, and difficult of cure. Similar effects are occasionally observed to follow attacks of typhoid fever and anemic states of the system, however engendered."*

Professor Post further states:—

"The sixth proposition seems to me to involve errors, or at least unsustained hypotheses, more glaring than that which is objected to in the fifth proposition. The language which is employed by Dr. Smith in the sixth proposition seems to convey the idea that the main obstacle to bony union in intra-capsular fracture is to be found in the condition of the fragment connected with the shaft of the bone, and that when the portion of the neck between the fracture and the shaft has been absorbed, the obstacle to bony union is thus removed."

I confess that I am unable to see how the above inference can fairly be drawn from the language used. The following is the sixth proposition: Under favorable circumstances, fractures of the neck of the femur external to the capsule unite readily by bone; so also do fractures which are partly within and partly without the capsule, and it is highly probable that fractures within the capsule, which are followed by absorption, are

sometimes united by bone, after the process of absorption has reached a point external to the normal capsule where bony material is supplied; but this, if it ever does occur, can never be proven; for, if the line of union be partly without the normal capsule, it is impossible to determine that the fracture was entirely within it, and we can never be positive that bony union of intra-capsular fracture has occurred, until a specimen is presented in which the line of union is found to be entirely included by the normal capsule.

It is well known that bony union is of frequent occurrence in fractures external to the capsular ligament; but it appears to me that we are yet without positive proof that bony union has ever taken place entirely within the normal capsule. Numerous specimens have been exhibited as illustrations of such union; but in the great majority of these specimens the line of union is found to be within the capsule on the anterior surface of the neck, and external to the capsule on its posterior surface, with a portion of the neck still remaining attached to the shaft. Professor Mussey's cases are examples of this kind, and Professor Parker's specimen illustrates the same point. These specimens represent, without doubt, one or the other of two conditions; there has been either bony union of a fracture partly within and partly without the capsule, in which the shortening was mainly at the expense of the fragment attached to the head; or bony union of the fracture which occurred entirely within the capsule, in which union did not take place until absorption had reached a point which was external to the insertion of the capsule on the posterior surface of the neck; and it is impossible to determine the class to which either of the given specimens may belong. The posterior insertion of the capsule is usually near the middle of the neck, and a transverse fracture a little external to this point will be within the capsule on the anterior surface of the neck, and without the capsule on its posterior surface. It is plainly indicated in the sixth proposition that such a fracture is, under favorable circumstances, sometimes united by a bone; also that a fracture at any point between this line and the shaft of the bone is united in like manner, and we are at a loss, therefore, to determine how it is that—

"The language which is employed in the sixth proposition seems to convey the idea that the main obstacle to bony union in intra-capsular fracture is to be found in the condition of the

* Gross's System of Surgery, 1st edition, vol. ii. p. 145.

fragment connected with the shaft of the bone, and that when the portion of the neck between the fracture and the shaft has been absorbed, the obstacle to bony union is thus removed."

Professor Post states:—

"I conceive the principal obstacles to bony union in intra-capsular fractures to be found in the condition of the fragment connected with the head, which, having no supply of blood-vessels except those which are conveyed to it by the ligamentum teres, does not receive sufficient nourishment to secure its union by bone with the other fragment."

Many reasons have been given for the constant failure of bony union within the capsule; but it appears to me that none have been given which are altogether satisfactory. It is true that there is a want of due nutrition of the fragments in patients who meet with this fracture at an advanced period of life; but we find the same failure to unite within the capsule, if a patient is the subject of this fracture in youth or middle age. In old age the function of nutrition is but imperfectly performed, and the weight of the body is, in consequence, gradually diminished by absorption, each of the different tissues being more or less affected by the slow decay; and it has been noticed that, for some reason which has not yet been fully explained, the neck of the femur is more seriously affected by this process than other parts of the skeleton. In this fact we see the reason why a fracture of the neck of the femur which is the result of a severe injury, and is of the rarest occurrence in youth, is frequently met with in old age, and often as the result of a most trivial injury. This atrophy or absorption of the neck is, then, the exciting cause of the fracture, and its progress, after the fracture, is seldom, if ever, arrested until a great part or even the whole of the neck has been removed. Malgaigne holds that the destructive absorption of the neck, which follows a fracture within the capsule, is incompatible with bony union. After a careful review of the reports of post-mortem examinations of fractures within the capsule, it appears to me that the materials provided by nature for the uniting callus in this situation are in many cases entirely removed by absorption, leaving no appearance of an attempt at union; and that in those cases in which the callus is not thus removed, it is arrested in its development, forming, in some instances, a kind of semi-cartilaginous material, rounding off the extremities of the fragments, and in others, a firm fibrous union

which does not become fully developed into bone. Sir Astley Cooper states that, in recent cases, the capsule is found to be distended with a mixture of serum, synovial fluid, and blood, which—

"Is produced by the inflammatory process, and becomes absorbed when the irritation in the part subsides. I do not know the exact period at which this change takes place, but I have seen it in the recent state of the injury."*

With regard to the new classification of fractures of the neck proposed by Professor Post, it seems to me that it will render the "vexed question of osseous union within the capsule" more difficult of solution than it will be with the classification now in use. He proposes—

"To make a new classification of fractures of the cervix femoris, dividing them into two classes, viz.: fractures between the caput femoris and the inter-trochanteric lines, and fractures at the inter-trochanteric lines extending more or less into the shaft of the bone. I propose to call the fractures of the first class *intra-cervical*, and those of the second class *extra-cervical*. I think that these two classes of fractures will be found to correspond very nearly with those which have hitherto been described as *intra-capsular* and *extra-capsular*."

He divides "*fractures of the cervix* into two classes;" but the class of *intra-cervical* fractures, representing fractures at any point between the head of the bone and the inter-trochanteric lines, includes all possible fractures of the cervix, and hence his *extra-cervical* fractures cannot properly be spoken of as fractures of the cervix, and do not, therefore, correspond in any degree with fractures hitherto described as *extra-capsular*, in which the line of fracture traverses the portion of the cervix included between the insertion of the capsule and the inter-trochanteric lines. The greatest objection to the classification is found in the fact that an *intra-cervical* fracture, which Professor Post thinks will be found to correspond very nearly with an *intra-capsular* fracture, may be either an *intra-capsular* fracture, an *extra-capsular* fracture, or a fracture partly within and partly without the capsule. This fact is important when we consider that these several fractures included under the name of *intra-cervical* differ widely from each other, bony union being of frequent occurrence in a fracture external to the capsule, occasionally seen in a fracture partly within and partly without the capsule, while it has not yet been satisfactorily demonstrated that bony union has ever occurred entirely within the

* Cooper on Dislocations and Fractures of the Joints, p. 145.

capsule. It is highly important, both in a scientific and a medico-legal point of view, to know whether we can ever expect bony union of a fracture entirely within the capsule. If not, the surgeon who faithfully performs his duty, and fails to secure bony union of this fracture, can summon to his defense, when unjustly arraigned for malpractice, the scientific fact that a fracture within the capsule is never united by bone. Professor Post states that "in intra-cervical fractures bony union very rarely occurs," and he tells us that an intra-cervical fracture will be found to correspond very nearly with an intra-capsular fracture. If from this we are to understand that bony union of an intra-capsular fracture does occasionally occur, we think that he requires us to admit as a fact that which surgeons have labored for fifty or a hundred years, and failed to prove. I do not deny the possibility of bony union within the capsule, but simply think that the evidence furnished in proof of such union is not sufficient to establish it as a fact, and that further investigation is needed in this direction.

To be continued.

Medical Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Reported by William B. Atkinson, M.D., Recording Secretary.

November 13th, 1861.

VARIOLA, ITS MODIFICATIONS AND TREATMENT.

Dr. NEBINGER would premise by remarking that he had taken no little interest in the treatment of small-pox. If there is any one disease to which he had given more deliberate consideration than another, that disease is variola. This greater consideration certainly had not arisen from any special pleasure he found in coming in contact with so disgusting and loathsome a malady, but had perhaps its cause or incitement in his sympathies being largely aroused for the patient, because of his isolation from relatives and friends, and the offensive and forbidding character of the disease, especially when it presents in the confluent form—then the most terrific of all the exanthemata.

The petechial form of variola, which should be called malignant, the form in which the vesicles fill with blood, or rather with bloody serum, he had seen, but had never been able to cure, and felt confident that attacks of this form of the disease always prove fatal. The confluent type of the disease is the next most formidable, but is not necessarily fatal; although, under the best man-

agement, it will march on to a fatal termination. The gentleman (Dr. Bell) who opened the subject remarked, in regard to the confluent variety of small-pox, that the large majority of all thus attacked die; in this declaration he is in harmony with all writers and authorities upon the disease. Yet, while this declaration is true, as far as the experience of those are concerned who treat variola after the style and fashion, the manner and form of our dead, and yea, some of our living fathers in medicine, he would remark with due and becoming respect and exalted consideration for these, the past and present, that so far from the large majority of his confluent small-pox patients dying, the majority recovered. But then he did not treat small-pox as it has been and is generally treated, or as the books and authorities recommend. His plan of treatment was, in the main, not only different, but vastly different, from that taught by the books and practiced by the profession. To this treatment he had called the attention of the profession more than once, and he was happy to say that he had met with some very gratifying responses from those who had had the courage to step aside from the old, too-well beaten and too-oft trodden track, to venture upon the new and better one. What is the nature of confluent small-pox? The correct answer to this question will give the only true indications for treatment of this form of variola. What, then, is confluent small-pox? It is a disease in which the patient's body is wrapped up, as it were, in a thick sheet of pus, and in which there is nearly a complete destruction of the external covering of the body and part of the cellular tissue beneath the skin. Dr. Watson says, the quantity of pus generated amounts to quarts. This is, doubtless, true. In the pustules, when fully developed, the pus exists in a semi-concrete or highly condensed form; but little more than the solid constituents of the pus being present, in consequence of the liquid constituent having, as the pus was being developed, evaporated or passed out of the pustules by exosmotic action. Thus, then, the variety of the disease under consideration is one in which nearly the entire skin and part of the subjacent cellular tissue are destroyed, and quarts of pus are generated. With these facts before us, and duly reflected upon, it is self-evident that great exhaustion must necessarily result. How shall we first assist the organism in developing the quarts of pus with as little exhaustion as possible, and this done, next enable it to reproduce the destroyed tissues? The only rational answer is, by generously sustaining the patient. But what, under the circumstances, constitutes a generous support? Will you say bread and tea, cracker, panada, water-gruel, tapioca, and arrow-root? He knows that this is the diet generally of small-pox patients, no matter how severe and exhausting the attack; or rather, he would say, that such was the diet until the patient had reached, or nearly reached, a fatal exhaustion, when milk-punch, beef-tea, and such

food are directed, and then too often presented either too late or in too small quantities for the safety of the patient. Bread and tea, water-gruel, and panada will not, even though you could induce the patient to partake freely of such diet, meet the requirements of an economy being exhausted in the manner he had referred to. The necessities of the system are great, and can only be successfully met by the introduction of the highest order of aliment, and that in large quantities. He had heard but recently of a case of confluent small-pox; the patient was an adult male, who was restricted to three glasses of milk-punch per day—the doctor in attendance declaring that a greater quantity would be injurious! For one moment reflect upon that. Three glasses of milk-punch in twenty-four hours, for a man covered from head to foot with pustules, the whole surface of his body being destroyed, and the necessity existing for its reproduction; and yet those pustules were to be perfected and the whole surface of the body to be reproduced out of three glasses of milk-punch per diem! Need he say that sloughing of the skin and cellular tissue took place, and that the patient died? No, he need not. You must know that, under such treatment, no other result could follow. "Three glasses of milk-punch, and three only; more would be damaging." Why, if a well man was permitted to take as his only food but three glasses of milk-punch every twenty-four hours, he would in a short time starve to death on it. Yet, gentlemen, this is the treatment given to confluent small-pox patients. Is it wonderful that the great majority die? But a few weeks ago, he was called to see a woman laboring under an attack of confluent small-pox, who had been treated by another physician. He found her so exhausted that she could not reply to his questions in tones audible enough for him to hear. She was so exhausted that she could not sustain her head upon the pillow in a line with her body, it falling from the pillow and approximating the bed. The skin on her face and arm in many places was sloughing, and he could, with but a slight effort, have stripped the arms of the skin, such was its condition. This woman was living—no, not living, dying—on toast and water, arrow-root, and gruel. He at once ordered her egg-nog, and set the time it was to be given and the quantity. He did not order but three glasses in twenty-four hours, under the impression that more would be damaging; but he directed her to be given a glass every two hours. On his second visit, which was about twenty-four hours from the first, improvement was manifest: she was able to speak so as to be heard, and was able to sustain her head upon the pillow. Between his two visits she had taken twelve glasses of egg-nog. Do not, at this announcement, be frightened from your propriety. This treatment was continued day after day, until she was able to take other food. And under this, as some would and have called it, extraordinary nutritive treatment, recovered.

The proof of its utility is found in its results. Try the treatment. Put it to the test before you pronounce judgment upon it. Be assured it is worthy of a trial.

He had recently treated a lad of seventeen years, who had a most exhausting attack of confluent small-pox. In the house with him were four others who had the disease in the distinct form. The lad referred to did not come into his hands until the fourth day of the eruption. He was delirious—his delirium closely resembling the ravings of mania a potu. He had not slept for forty-eight hours, and it was with much difficulty he could be restrained and confined to his bed. The doctor succeeded in controlling his delirium and produced sleep with opium. As it was evident from the extent of the eruption that the case would be a grave one, he commenced at once to sustain him by the free use of eggs and milk. This was continued for three days, when whisky was added to the eggs and milk—of this (the egg-nog) he was given as much as he could take. It was manifest to the doctor that those who were nursing the boy had concluded that he would die, and as the duty of taking care of him was a most disagreeable one, the impression that he could not get well had its bad effect of preventing the free administration of the nutriment. He felt a deep interest in the boy's recovery, and for the purpose of keeping his attendants from neglecting him, he visited the lad three and four times daily, while he was extremely ill, and upon each occasion gave him freely of egg-nog. This was one of the worst cases of small-pox he ever beheld. His eyelids were not separated for eleven days. The entire surface of his body was covered with the eruption. The skin in several places was gangrenous, and he became emaciated as he never saw a small-pox patient emaciated before.

Now this lad drank quarts upon quarts of egg-nog and milk, and yet with all this extraordinary nutrition, he became extremely prostrate, much emaciated, and had gangrene of the skin. What would have been the result if he had been given the water-gruel treatment? There cannot be any difficulty in determining. The patient, under high and free nutritive treatment, recovered, and he now lives to proclaim the utility of generous nutrition in confluent small-pox.

After the first three days, the period which precedes the eruption, medicine ceases to be, as a general matter, of any use. The great, the pressing indication is food, and it matters not what the food is so that the patient takes enough of it to meet the requirements of the economy. Dr. N. employs milk, eggs and milk, and egg-nog, not that there is anything of special importance about those articles of diet, only that they are as grateful to the patient as any food which can be presented, and give as little pain to the pustulated throat and mouth as any food which can be given. Yet, for the generous nutrition which he recommends to be of positive service, it must be commenced early. It will not

do to put off supporting vigorously the patient, until prostration begins to manifest itself—our nutrition then, be it ever so generous, may be without benefit. That the blood may be so sustained as to meet all the pressing wants of the economy, we must commence early. Commence immediately upon the papular stage closing and the vesicular stage opening. Passing from milk to eggs and milk, and from eggs and milk to egg-nog, as the pustules develop and the disease progresses.

Much stress has been placed upon what the books and teachers call the secondary fever of variola. He must enter his objection to this name, for the febrile disturbance which springs up during the development of the pustules, and subsequent to their development. He objected to the name because it is an improper one, and is well calculated to lead to false ideas of pathology and improper treatment. The fever should be called pustular, maturative, or irritative fever, as it would then express the cause, upon which its development and continuation depends. But what of this secondary, or irritative fever? Why shall we, as the books direct, withhold at this period generous diet from the patient? Will its absence diminish the fever? Or is it important to the safety of the patient that it should be diminished? Do we not desire that this fever shall be sthenic; and can we have it such, by allowing the blood to be exhausted by the demands made upon it to perfect the pustules? Certainly not. If we desire this fever to be vigorous, and the patient's condition not to become typhoid, we must sustain—I repeat we must sustain—the patient, and that most generously. A moment's reflection cannot bring us to any other conclusion than that it is an outrage of common sense, an outrage upon the patient, and a violation of the plainest teachings of pathology, to withdraw food from, or to refuse to give it, with an unsparing hand, because a fever exists as a phenomenon of the development of pus, or the maturation of almost innumerable pustules. Do we not sustain well, in all other cases where pus is being developed to any large extent; and is not the practice justified by its results? Why, then, should we refuse generous dietetic support in that pustular disease in which, Watson says, as has already been remarked, quarts of pus are generated? No patient with confluent small-pox was, he felt confident, ever destroyed by a generous and abundant supply of food. He was equally as confident that many such now sleep the slumber of death because they were not vigorously sustained with food. The time for the management of grave cases of variola with water-gruel, toast-water, and panada, and for the secondary, or more properly the irritative fever, to be regarded as an opposing, a contraindicating phenomenon to the free introduction of food, is fast passing away. A better time for the poor, unfortunate small-pox patient is at hand.

Some one has said to-night that there had been no improvement in the treatment of small-

pox since the days of Sydenham. He begged to be indulged in the declaration that this is not correct. In the days of Sydenham the starvation treatment, the gruel diet was the food, but although this treatment is still too largely practiced, he knew that it was not so universally followed as was the case a few years ago, and that there are those who, although they do not sustain their small-pox patients to the extent that he does, yet they repudiate the gruel and panada diet, and give food with a freedom that would appal Sydenham himself. The members are not unacquainted with the fact that his practice is not small, and that the field of his labors is in one of these localities in which Dr. Jewell has correctly stated that variola has been very prevalent. It cannot be that he should not have had a liberal percentage of these cases to treat, and yet he had but one case of death to occur, and that was a man whose habits were bad, and whose attack of confluent small-pox had been preceded but a few months by an attack of secondary syphilis.

Dr. BELL asked how many cases Dr. N. had seen in the late epidemic? Had he seen thirty?

Dr. N. could not say how many, but he presumed he had seen more; but this was a mere guess, as he had not any account of his cases at hand, from which he could make any positive assertion as to their number. But he was confident as to having had but one fatal case during this epidemic.

Dr. BELL. Then the doctor has been more fortunate than any physician yet.

Dr. N. remarked that many of his cases were light, and required but little treatment. But as regards being more fortunate than any other physician, that, he presumed, might be accounted for by the other fact that but few sustained their small-pox patients as generously as he did.

Dr. JEWELL. How many were confluent cases?

Dr. N. As far as he could now call to mind, five were such.

Dr. N. said he had found much relief to his patients, from the burning and itching of the face, to follow from the use of an ointment made of lard and liquor sodæ chlorinata, in the proportions of one ounce of the lard to two drachms of the solution of the chlorinated soda. This he directs to be freely applied to the face at short intervals.

Dr. CARSON asked if he had employed glycerin.

Dr. N. He had not.

Dr. BURNS, after thirty-five years' experience, could fully agree with Dr. Nebinger. For many years, after the period of excitement had passed, he had stimulated freely. There is a great waste of vital fluid, and the patient requires sustaining. Hence he gave beef-tea, punch, etc. The last epidemic had been one of the most violent character, and required early and free nutrition, and with satisfactory results. For twelve years he had employed iodine externally. At the period when pustulation was commencing, he applied the tincture of iodine in its full strength, and then painted with collodion, repeating it every day. The inflammation is thus controlled, and the

air is prevented from acting on the skin. Small pits are left, which, in a few months, disappear. He had tried it in a case on one hand, leaving the other naked, and there was a marked difference.

Dr. REMINGTON was happy in being able to add his testimony in favor of the stimulating nutritive treatment pursued in the advanced or suppurating stage of *confluent small-pox*, and so highly eulogized by our friend, Dr. Nebinger. He had been called upon to treat a most aggravated case in its confluent form, early last spring, occurring in a young man, aged about twenty years, and said to have been vaccinated some five years since, *homoeopathically*. Hemorrhage from the bowels supervened on the twelfth day of the disease, which, in a few days, yielded to the *tinct. ferri chloridi*. This formidable case was also attended with *delirium*, *stupor*, *intense suffering*, great intumescence of face, and soreness of the scalp, with entire closure of the eyelids for a week or ten days. Circumscribed sloughs of the cutis appeared, and on the maturation of the pustules, which coalesced on the face, and formed a regular incrustation of half an inch in thickness, giving rise to an intolerable fetor, notwithstanding powerful disinfectants of *chlorinated soda* and *glycerin* were freely employed. There were positive symptoms of great prostration present, and this exhaustive drain, by so extensive a suppurating surface made on the powers of life, was compensated by the liberal exhibition of eggs, custards, jellies, with brandy, milk-punch, essence of beef, mush and milk, ice cream, and oysters.

The patient's eyes escaped unharmed, although his hair fell off, and his hearing was greatly impaired for some months. He had since learned that he has completely recovered from both these annoyances, and enjoys a full return of vigorous health.

There did not appear to be any extension of the disease, as he took the precaution to vaccinate immediately every member of the family supposed to be susceptible of the disease.

He should have been gratified had the gentleman who preceded him this evening enlarged on some of the fatal and more frequent complications of *variola*, and particularly that grave and dangerous complication with *utero-gestation*.

He must candidly admit that so far as his experience goes the result has been invariably disastrous, whether a miscarriage has happened, or a delivery at the full period, while the woman was suffering from an attack of *variola*.

It is quite evident to the practical observer that medicine has but a very limited control over this loathsome scourge, and therefore our chief duty consists in restricting its extension by interposing vaccination; employing moderate evacuations by salines in the commencement, a properly regulated, cooling regimen, and free ventilation, followed, in the advanced and suppurating stages, with a generous, nutritive, stimulating diet.

Adjourned.

Illustrations of Hospital Practice.

PENNSYLVANIA HOSPITAL.

SURGICAL CLINIC.

Service of Dr. PARCOST.

March 15, 1862.

A NEW OPERATION IN HERNIA.

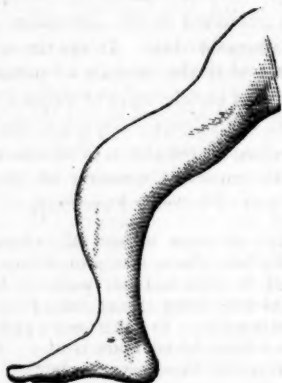
This was the case of a man far advanced in life, who had just entered the hospital to place himself under surgical treatment for an incarcerated scrotal hernia. Efforts had been made by the usual appliances of warm bath, etherization, etc. to reduce it, but without avail. There were none of the extreme symptoms usually present in strangulated hernia, and the diagnosis was therefore made of incarcerated hernia with stricture at the external abdominal ring. An operation was decided upon, and the lecturer took occasion in his clinical remarks to speak of an entirely new operation, of which he believed he was the originator, and the only surgeon who had performed it. It was the division of the stricture by subcutaneous incision, on essentially the same principle as that for division of the tendo-Achillis or the soleus muscle, for the cure of talipes. He had performed this operation in several instances and with the most satisfactory results, curing the patient in much less time than is required by the usual operation, in some instances requiring the patient to lay by only a day. But it is only applicable to those cases where the stricture is at the external ring, and this should always be borne in mind. This case being one of those in which this operation was applicable, it was performed in the following manner: A grooved instrument was first introduced some distance below the stricture, passed under the skin and fascia, and into the external ring, so as to raise it upon its point; the director being kept entirely outside of the sac. A common bistoury (though that instrument is too much bent at the point to be an appropriate one) was then held firmly with its back upon the grooved director, and then raised up, so that its point should pass into the groove of the director through the integuments, just below the stricture. By rocking the handle of the bistoury backward, the point slid along the groove to the seat of the stricture, dividing it. Great care is necessary to avoid wounding the bowel, which lies very close to the knife, while if properly performed it is less dangerous than the ordinary operation. The hernia was then readily reduced, and a bandage and compress applied to prevent its return. The operation was neatly and quickly performed, and the case is at this date progressing finely.

RACHITIS—CONGENITAL.

This case was that of a young man, nineteen years of age, a cripple from his birth, who came into the Hospital on the 14th inst. for the purpose of submitting to amputation of the leg,

with a view to the application of an artificial limb. He is a resident of Adams County, Ohio, was born in Kentucky, and is the only member of a large family of children which is deformed. His bodily health is good; never has been sick a day in his life, he says. His parents were both healthy; his mother is still living; and he appears very intelligent. He has never walked upon his feet, his only method of locomotion being upon his knees. His thighs are smaller than natural, but entirely sound, and these bones are evidently capable of sustaining the weight of his body. Below the knee the legs exhibit the appearance represented in the drawings, Figs. 1 and 2. The

1



right limb, Fig. 2, is the most deformed. The joints both of the knee and hip are perfect. Several times during his life he has attempted to walk

2



3



by the aid of crutches, but every effort in this direction has proved a failure, resulting, as he says, on as many as eighteen or twenty occasions, in the fracture of the tibia, and once of the femur, at the least slip of his foot or crutch. Neither tibia is well de-

veloped, the right being scarcely three-quarters of an inch in diameter, and the fibula of that leg is not larger than an ordinary-sized pipe-stem. A peculiarity of the case is that, although the bones are so easily fractured, yet the fractures heal kindly and speedily. The case is one full of interest in every point of view. The diagnosis is easily made. It has been a case of rachitis. The great anxiety of the young man is to be able to walk, and for this purpose it is proposed to amputate the right limb at the point designated by dotted lines in the cut, Fig. 2, which will give a sufficient stump for the application of an artificial limb, to be supplied by Mr. B. F. Palmer, of this city. With a full understanding of the consequences which may result from the operation, he is anxious to have it performed at once. Having been placed under the influence of ether, the limb was amputated by Dr. Pancoast expertly and neatly. He was assisted by Drs. Hewson and Hartshorne, surgeons of the Hospital. Great care was taken to render the stump a serviceable one for locomotion when the artificial limb should be applied, by clipping the protruding nerves and bringing the flaps aptly together, and firmly securing them by sutures. The usual dressings were applied, and at this present writing, March 24, is progressing finely toward a favorable termination, and has the appearance represented in Fig. 3. For the remaining limb, Fig. 1, mechanical appliances are to be made, also by Mr. Palmer, for the purpose of supporting and strengthening it, and it is confidently expected that the earnest wish of the young man will be gratified, and that in a few weeks, if no untoward accident shall occur, he will return to his home standing upright and walking as other men. This will be indeed a triumph of surgery and the compensatory art, and both the surgeon and the surgeon-artist will feel themselves amply repaid for their commendable generosity and benevolence.

EDITORIAL DEPARTMENT.

PERISCOPE.

Weekly Summary of American Medical Journalism.

By O. C. Gibbs, M.D.

CHLORATE OF POTASSA—ITS USE IN PHTHISIS, ETC.

In the *American Journal of the Medical Sciences* for October, Professor Austin Flint has an article upon the treatment of phthisis by the chlorate of potassa. Professor Flint reports fourteen cases of unmistakable phthisis, in which this remedy was put on trial. We cannot give his general conclusions in full, but subjoin the following:—

"Of fourteen recorded cases of phthisis in which

the chlorate of potassa was given in sufficient doses, (3ss per diem in eleven, and 3iij per diem in three cases,) and for a sufficient period to test its remedial power, in nine the histories afford no evidence of any salutary influence from the remedy; in four cases the circumstances render it doubtful whether much, if any, influence was fairly attributable to the remedy; and in one case only is there room for the supposition that the remedy was highly beneficial. These cases, therefore, fail to furnish proof of any special efficacy in this remedy to arrest or retard the progress of the disease."

In most of the cases reported, the quantity of tuberculous deposit was large or abundant, and the disease had existed for a considerable time, and, consequently, they are not necessarily a truthful exposition of what the remedy may accomplish, if given quite early in the disease. However, in one case, "the remedy was commenced two months after the commencement of the disease, and continued without improvement for six weeks."

Dr. Flint concludes thus:—

"The chlorate of potassa may be given in cases of phthisis, to the extent of half an ounce per diem, with entire impunity, and without occasioning any unpleasant symptoms. It does not produce diarrhoea, and may be well borne when diarrhoea is present in cases of phthisis."

Professor Flint's experiments with this remedy in phthisis were suggested by a paper upon this subject by the late Dr. E. J. Fountain, which was read before the American Medical Association, at its meeting in June, 1860, and first published in the *American Medical Monthly* for September of the same year.

Neither Professor Flint nor Dr. Fountain, in either of the papers referred to, allude to the fact that similar use and recommendation of the remedy had been previously made.

We are of the opinion that the remedial powers of the chlorate of potassa have been greatly overrated. In various forms of sore mouths in children it is indeed a valuable remedy, also in mercurial ptyalism. As a remedy in phthisis, we think our patients are entitled to more reliable remedies. In typhoid fever and diphtheria we have not been positive in regard to its real comparative value, as related to other medicines. It is true we have used it considerably in diphtheria, but never to the neglect of quinine and iron, and were we to dispense with either of the three remedies, it would certainly be the chlorate of potash. In fact, in cases of disease presenting powerful

septic tendencies, such as some of the malignant forms of erysipelas, scarlet fever, diphtheria, etc., we are beginning to doubt the propriety of alkalies, unless an exception is made of ammonia, where the stimulating power overbalances the alkaline. In such diseases, acids, hard cider, vinegar, etc., are preferable, and we will venture the prediction that these last named will, in a few years, take rank, in the class of diseases indicated, above the chlorate of potassa.

As intimately connected with the paper by Professor Flint, just referred to, we may appropriately consider a lecture upon the chlorate of potassa by Professor Samuel R. Percy, of New York, and published in the *American Medical Times* for December 14th. It was the opinion of Dr. Fountain that the chlorate of potash acted beneficially in a certain class of diseases, by parting with six equivalents of oxygen in the system, and thus acting remedially in all diseases accompanied with imperfect aeration of the blood. Upon this point Professor Percy says:—

"Although to some extent this change does undoubtedly take place, it is proved beyond conjecture that it does not all pass as KCl, for even in moderate doses it has been found in the urine in the same form as when taken, and in large doses it has been found abundantly. Wherein, then, is the use of these large doses?"

In regard to its action, Professor Percy starts the following inquiry:—

"The question may, I think, be fairly asked and argued, Is the beneficial result, that is said to be produced in phthisis by this salt, owing to the disengagement of oxygen, or to the known power of alkaline bases or salts to arrest decay when in sufficient quantity, and not too long continued?"

He starts another inquiry which, we think, is fatal to the theory that the disengaged oxygen is the remedial agent:—

"Supposing that this salt did disengage into the blood all its oxygen, in what manner would this oxygen differ, either in its composition or effects, from that absorbed by the lungs, and thus mixed into the current of the circulation? The oxygen eliminated from the same material, and inhaled into the lungs, and carried into the circulation, and proved to exist there, fails to produce the results and improvements claimed by Dr. Fountain and others to be produced by the chlorate of potassa. And supposing a drachm, or even half an ounce—the maximum dose given with safety—is administered, how small would be the amount of oxygen evolved in comparison with that taken in by the lungs!"

Professor Percy starts the inquiry in regard to

the priority of recommendation of the remedy under consideration in phthisis, etc. As we have made a few foot-prints in the same path, and as he, by permission, availed himself of a few facts developed by our unpublished researches in this direction, we may be excused for again referring to the matter. To know that a remedy has been greatly extolled, in a certain disease, a few centuries past, and after extended trials abandoned as worthless, may obviate much useless experiment, if the remedy be revived at the present time.

In the two papers by Dr. E. J. Fountain, the former of which was published in the *American Medical Monthly* for September, 1860, and the latter in the same journal for February, 1861, the chlorate of potash was recommended in all forms of scrofulous affections, in phthisis, etc., and cases were reported illustrative of the great benefit resulting from the administration of this remedy. Speaking of those suggestions in his second paper, the doctor observes that he has presumed to suggest the remedy in what he supposes "to be a new and untried field." These papers attracted a good deal of attention from the profession, a majority of whose members, we are led to believe, supposed such use of the chlorate of potash to be a novelty. But an examination of the history of this remedy will show differently.

Dr. Fountain advocated the use of the chlorate of potash in phthisis upon theoretico-chemical grounds, involving what he claimed to be a *new view of the nature of tubercle*. In the *New York Journal of Medicine* for July, 1859, he expressed the opinion that tubercles were the result of the imperfect removal or excretion from the system of certain products of organic decay. A few months later, Godwin Tims, of London, issued a work upon the *Nature and Treatment of Consumption*, in which the same pathological views were advocated. Learning this, in the *REPORTER* for May 12th, 1860, Dr. Fountain distinctly and without reservation claimed for himself the honor of first announcing to the profession this new theory of phthisis. The fact is, these views were not original with either of them. They had been the property of the profession for nearly a score of years. So far as we know they were first advocated by Zimmerman as early as 1844. Copland, Williams, Simons, etc., among Transatlantic physicians, and Professors Draper, Lawson, and the present writer, in this country, had previously referred to this pathological view. This fact is admitted by Professor Percy, and in sup-

port he quotes two passages from an article by us, written in 1855, and published in the *American Medical Monthly* for January, 1856. We quote Professor Percy's reference to this matter. He says:—

"Dr. O. C. Gibbs (in the paper referred to) says, 'Many eminent names in the profession have recently taken a different view, and now consider it (tubercle) an *excrementitious product*, derived from the *waste of the tissues*, or the *oxidation of the blood*.' Dr. Gibbs, in the same paper, again remarks, 'that if the material from which tubercle is formed *reverts to the blood from the waste of the tissue*, then its *superabundance is an evidence of increased oxidation*, and *waste of certain elements of the body*, or of *deficient elimination of this excrementitious product*.' You will observe that Dr. Fountain's views correspond with those previously stated by Dr. Gibbs; but Dr. Gibbs does not claim them as original with himself; he is but ably stating the opinions of the day, as held by the minority in contrast to those of the majority."

As we had reason to know that our paper, written in 1855, and from which Professor Percy quotes, was sent to the office of Dr. Fountain, we were not a little surprised when he made the claim in the *REPORTER*, to which we had previously referred, but were still more surprised when, in a note to his paper, published in the *American Medical Monthly* for September, 1860, he entirely misrepresented us, and then charged us with ignorance and inaccuracy.

We at once wrote to Dr. Fountain, informing him that we had never confounded *his views* with *ours*, as anywhere published, but we did identify those he claimed as original with those years ago advanced by others, and stated by us five years before he laid claim to them. We further informed him that his use of the chlorate was not a novelty, in any particular, and cited him to authority, page, etc. When, five months later, he published another article upon the chlorate of potash, and its use in scrofulous diseases, and made no correction, nor abated in the least from his former claims, we confess we lost confidence in the author. This neglect induced us to investigate the matter anew. The result was an article of some length, showing the correctness of our position. This was in the hands of the printer when Dr. Fountain's unfortunate death was made known to us. We at once suppressed the article.

We would be the last to strive to take from the living or the dead a well-earned laurel, and have made the above remarks with great reluctance, but the substance of the papers before us

seemed to suggest them, and justice to ourselves and the profession to call for them. We scruple less in this case, because we would restore the laurels to him or those that earned them.

Dr. Fountain first used the chlorate of potash in phthisis in November, 1859. The treatment was a novelty to perhaps a majority in the profession, and he so earnestly advocated it that many have been induced to give it a trial. So far as published, the results have not been encouraging.

Bearing upon its previous use in phthisis, Professor Percy remarks:—

"As to its effects in phthisis, and for which Dr. Fountain claims originality, and considers it almost a specific, we find, in the *London Lancet* for 1836, that Köhler tried it in 1833 very extensively (in twenty-five cases) in the same disease, and much in the same manner, without experiencing benefit from it. Dr. Garnet tried it to restore the deficiency of oxygen in the system in scorbutic affections, (see Duncan's *Annals of Medicine*, 1779.) Copland, in his *Medical Dictionary*, published in 1840, recommended it in bronchitis, and adds that 'Mr. Murray, in a recent publication, states that he has employed it successfully in consumption.'"

Dr. T. D. Mitchell, of Philadelphia, in his work on *Materia Medica*, says of the chlorate of potash:—

"This salt was, at one time, much employed in the treatment of *pulmonary consumption*. Dr. Köhlen, of the Berlin Hospital, gave it with a pretty liberal hand, and was one of its most sanguine admirers. His favorite prescription was as follows:—

R.—Chlor. pot. ʒj;
Aq. destill. f ʒjv;
Syrup althæa, f ʒj. M.

Dissolve the first two, and add the syrup named, or any simple syrup. The dose is a tablespoonful four times a day.

"Some physicians in this country made repeated trials of the chlorate in various forms of the same disease, but not with sufficient success to warrant us in reposing much confidence in it as a means of doing service to consumptive patients. It is decidedly stimulant, and may have done harm in many cases. I think it has been the occasion of hæmoptysis frequently." (*Mitchell's Therapeutics*, p. 694, edition of 1857.)

Bearing upon Dr. Fountain's last paper, in which he recommended the chlorate of potash in unhealthy sores, abscesses, and the various forms of scrofulous disease, we quote again from Professor Mitchell's work, (page 696.)

"The same salt has been employed with good results in the treatment of *unhealthy ulcerations*

in adults also. The principle of action is the same in all cases, most probably. (See the *London Lancet* and *Medico-Chirurgical Review* for 1843.)"

Dr. Fountain also claimed to have discovered the utility of the remedy in *mercurial ptyalism* in 1851. Upon this point Professor Percy remarks:—

"Professor G. B. Wood, in the first edition of his *Practice of Medicine*, which was, I believe, issued in 1847, four years before Dr. Fountain dates his discovery, in speaking of the treatment of mercurial stomatitis, says: 'The internal use of chlorate of potash has been recommended as highly useful, though requiring caution;' and he refers, as authority, to the January number of the *American Journal of Medical Sciences* for 1844. MM. Herpin and Blaché employed it, and recommended it for the same purpose in 1855; Ricord, in 1856; Gallier, in 1857; whereas Dr. Fountain has given no record of his use of it thus prior to 1860."

Touthing this point, Professor Daniel Brainard remarks:—

"We have known it (the chlorate of potash) as a common remedy for *mercurial salivation*, stomatitis materna, scarlatina anginosa, etc. etc., for more than twenty years, and as far back as we can recollect in medicine it was by no means considered a new remedy."

Dr. Fountain advocated the administration of the chlorate of potash in what would ordinarily be considered large doses, and maintained that such doses were harmless. In proof of this view, he took one ounce of the chlorate of potash at a dose, and unfortunately fell a sacrifice to his imprudence. This was not a new experiment, but new in its sad results. The late Professor Tully nearly thirty years ago experimented with this remedy. In the *Boston Medical and Surgical Journal* for 1833, we believe, he detailed those experiments. To several persons ounce doses of this article were administered, with unpleasant and painful symptoms but without fatal consequences.

From the foregoing it will be seen that Dr. Fountain was not original, either in his pathological views, his therapeutic uses and recommendations of the remedy, or in that last sad and fatal experiment. This fact, of course, constituted no bar against his expressing his views and reporting his experience. Justice, however, demanded that he "render to Cæsar the things that are Cæsar's." Instead, he persisted in maintaining that he was entitled to the honors of originality in each of these particulars.

It is proper to observe here that neither Pereira, Professor Tully, nor Dr. C. A. Lee believe that the chlorate of potash acts chemically by supplying oxygen to the system. Dr. Lee thinks it acts as an alterative tonic. Professor Percy says:—

"It is my opinion that it acts rather by its unity as a saline, possessing its own peculiar action, than by decomposition."

Professor Percy makes some additional remarks in regard to its therapeutic uses. We can make only very brief references:—

"There are symptoms in typhoid fever that are much relieved by its careful exhibition. When, in this disease, the urine is found to be scanty and high colored, with the brain dull, owing to this scanty secretion, this remedy, given in moderate doses, freely diluted with water for twenty-four or forty-eight hours, will generally be found to give great relief by its restorative and diuretic action."

"On the whole, it is, perhaps, the best remedy we have for buccal inflammations and for ozæna."

Professor Percy further says that Professor Jacobi has found the remedy not only almost uniformly successful in *curing* mercurial stomatitis, but equally so in *preventing* it. From the first day of mercurial treatment, as, for instance, for syphilis, he gives the chlorate of potash in drachm doses, without any abatement of the effects of the mercurial, and without salivation, though the mercurial be continued for weeks.

THE MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, SATURDAY, MARCH 29, 1862.

MEDICAL PROVISION FOR RAILROADS.

We have read with great pleasure the paper on this subject, placed by Dr. Edmund Arnold, of Yonkers, N. Y., before the late meeting of the New York State Medical Society. The paper is reprinted in pamphlet form, and undoubtedly has been widely circulated. It presents some facts and suggestions which are eminently worthy of attentive consideration. During a period of five years, from 1856 to 1860, 683 persons were killed, and 624 injured on the thirty railroads of New York. On five of these roads, with a total length of 1338 miles, 528 were killed and 412 injured. The railroads of New York are as well and as carefully constructed and managed as any in the United States; but here is an annual loss of life upon them of over one hundred each year, and also a like number of persons injured.

This, however, is only the naked fact. The fearful amount of human suffering caused by these figures is not, nor can it be, computed by any such methods of notation. But few, comparatively, are killed outright. Many linger for hours and days perhaps, before death comes to their relief; while the mass undergo the most intense suffering for weeks and months, and perhaps are crippled or maimed for life. Nor is this all. No one can tell when or in what locality a "terrible accident" will occur. The open "draw-bridge," through which a long train of cars may be piled, with its living freight, one upon another in inextricable confusion, is hardly seen until the mischief is all done. The approaching train coming with full speed is concealed by the curving road till it is too late to prevent the crushing collision. And so, without warning, and in the midst of a calamity which humanity shudders to behold, and before which it stands petrified with horror, scores of human beings are thrown at once upon the care and attention of those who happen to be near when the accident occurs. "Not a rag is on hand to staunch a bleeding wound; not a single appliance within reach of any medical man who might happen to be near the cars, to enable him to render effective service." Amid the wildest excitement of the by-standers, and the absence of necessary aid in such emergencies, the feeble spark of life goes out in some whose lives might otherwise have been saved, and the sufferings of those who survive are greatly prolonged and aggravated.

To propose a remedy for this condition of things is the object of the writer in the pamphlet before us. The plan is this: That each company appoint at its main terminus a medical inspector, who shall have a small salary and rank as assistant superintendent. His functions would be multifarious. He would be the confidential medical adviser of the Directors of the road in all *pecuniary* and other *transactions* with the district surgeons. A part of his duties would be to organize the line into districts, to issue a code of directions to station masters and flagmen as to what should be done upon the sudden emergency of an accident. The company should also appoint district surgeons (to be paid for actual services rendered) at all the principal towns on the route, not more than ten or fifteen miles apart. So far the surgeons. Then further, at each surgical station a small room should be set apart, and furnished with bedstead and bedding, a stretcher

with mattress and pillow, table, chairs, and warming apparatus, lint, bandages, sponges, splints, etc., and as a still further provision for an accident that may occur between these stations, the same appliances should be kept upon each train. Such are the essential features of the plan proposed by Dr. Arnold, and as a humanitarian measure it deserves serious consideration. If carried into operation upon all our railroads, the horrors of the "accidents" frequently occurring would not only be greatly mitigated, but many valuable lives would no doubt be saved, and our railroad companies would thus recognize a legal as well as a moral obligation to guard against their occurrence. A double object would thereby be gained. Both the traveler and the company would be better protected. That some medical provision for railroads is needed, is sufficiently evident, and that the companies themselves should bear its entire expense is, in our opinion, eminently proper. For though built ostensibly for the benefit of the public, the stockholders are yet the recipients of all the pecuniary profits.

But we would suggest whether the plan proposed by Dr. Arnold is not more complicated than necessary, and whether the end sought could not be gained with less machinery? Whether the connection of any surgeon with any railroad as a medical adviser of the Directors in all pecuniary or other transactions, is not liable to serious objection, and will not compromise his impartiality and independence, and subject him to the charge of sinister motives in some of his decisions or advice? Whether the impromptu gathering of surgeons from the vicinity where an accident occurs, their compensation to be regulated in the same manner as that for other services rendered, and to be paid by the company, would not be much more simple, prompt, and effective, and comport better with the dignity of the profession? Whether, if the surgical appliances are kept, as they should be, at stations and in the trains, as a part of the paraphernalia of the road, the end sought, viz., the speedy care of the wounded and mutilated, and the speedy supply of all their necessities, could not be better accomplished without the routine of "head surgeon" and "district surgeon," general duties and subordinate duties? But these are only hints intended to direct the attention of the profession more particularly to the subject, and we will only add, whatever may be the views entertained in regard to the feasibility or practicability of the

plan proposed by Dr. Arnold, his pamphlet is worthy of a careful perusal, and he is entitled to the gratitude of the entire community for discussing so important a subject with so much enthusiasm, humanity, and discretion.

AMERICAN MEDICAL ASSOCIATION.

Further reflection and observation more fully confirm us in our conviction, that the interest and unity of the medical profession of our whole country would be essentially promoted by the postponement of the meeting of the American Medical Association another year. The circumstances which so clearly indicated the policy pursued last year, and in which the profession so generally acquiesced, have, if possible, additional force at the present moment. With all the crushing weight of a terrible war upon our beloved country, and with the attention of our ablest surgeons, many of them prominent members of that body, intensely occupied in their humane efforts to mitigate its horrors, the time is not auspicious for an annual commingling of the medical brotherhood. A postponement till the storm is overpast is decidedly preferable. Such is our view. Such, so far as we are informed, are the views of the profession of this city, (who have always taken a deep and abiding interest in everything pertaining to its welfare,) and of the country, with few exceptions; and such, we are authorized to say, is the recommendation of the delegates to the Association from this city. Such, too, we make no question, will be the view of all who sincerely desire the prosperity and unity of the only national association now left intact in our country. These views, we are pleased to observe, are emphatically indorsed by our cotemporary the *Medical News*.

Meanwhile, State and local societies should hold their sessions as usual, and more of life, energy, and activity be infused into their proceedings. Those which have been already held have been unusually interesting and profitable, and well attended, and afford a fair prestige of like success for those yet to be held. And this reminds us to inquire after the Medical Society of Pennsylvania, and to urge the proper authorities to see to it that early notice is given of the approaching meeting, so that the profession in the whole State may have ample time to be fully represented. While we wait the result of events for a happy reunion of the medical fraternity

North and South, upon the floor of the National Association, the opportunity will be most auspicious for a free, full, and courteous interchange of opinion and sentiment in the State and local organizations.

EDITORIAL NOTES AND COMMENTS.

Vindication of Surgeon J. B. Porter.—The readers of the REPORTER will remember that a few weeks since we referred to some statements that were made by Senators Hale and Wilson, relative to alleged mismanagement of the Alexandria Hospital. A court of inquiry was convened at the request of Surgeon Porter, which, after a long, careful, and laborious investigation of the matter, taking the evidence on oath of the complainants themselves, came to the conclusion that—

"The evidence has failed to substantiate the statements set forth in these letters, except for a short period in the month of December, 1861, the flour furnished to the Alexandria bakery was of an inferior quality.

"No witness has testified to Dr. Porter's striking patients, or otherwise punishing them.

"The only instance of men being punished outside of the hospital, was of a man who was drunk, who was turned over to the Provost Marshal of Alexandria for temporary restraint.

"Within the hospital, patients under treatment have had the usual mode resorted to of keeping them confined to their room—that of removing their clothes when they have violated the rules of the hospital and of the attending surgeon. That the eating out of the swill-barrel by several men was a mere voluntary act on their part, in consequence of their having absented themselves at the usual dinner hour.

"The Court has drawn up the facts without taking the evidence of any one of the witnesses whom Dr. Porter offered to produce.

"The Court finds that the conduct of Dr. John B. Porter toward the patients has been distinguished by kindness and consideration for the wants of the sick; that no complaint has ever been made of Dr. Porter, except in one instance, by the principal complainant, to Col. Mansfield, and that, according to his own evidence, it was immediately corrected.

"The Court, from its own observation, cannot speak too highly of the condition of the Mansion Hospital, which is exhibited in the fact that out of 500 patients there have been but 32 deaths."

The object the complainants had in view was to obtain their discharges, and the signing of the certificates by most of the patients was because they were led to believe that if they could swear

to one grievance (that relative to bread) they could sign the certificates to all of them.

Thus a meritorious officer is triumphantly vindicated from charges of the most injurious character which have been with perverse industry circulated against him; and through him the medical department of the army is also vindicated from the gross dereliction of duty alleged against it by those who sought to supplant it. We hope to see the result of this inquiry made as public as the slanders.

The Tax on Patent Medicines.—Among the articles enumerated in the new tax bill as sources from whence it is proposed to raise a revenue for the support of the government in this trying crisis, we observe patent medicines are included. These articles are so numerous, and so persistently used by a large class of the community, that it is wisely argued a large sum may be realized from a tax upon them. And no doubt such will be the result. Worthless as nearly, if not all, these articles are, still the people are so excessively fond of humbuggery that they will buy them, and quackery may thus be made to contribute to the public good. And besides, the sales are nearly all profits, so that the class of persons who are constantly humbugging the dear people with their nostrums, will be compelled to disgorge some of their ill-gotten gains. But complaints are going up, we understand, that this tithe of a tax will ruin the business. To say nothing of the ridiculousness of the assumption, or of the fair imputation of want of patriotism, which objection to this tax implies against these so-called "benefactors of humanity," we certainly know of no business the entire absence of which would be so little felt in reality by the community, or which would so directly benefit the sanitary condition of our common humanity. We go in for the tax, therefore, and if the fears of ruin in consequence are realized by those engaged in the business, the voice of intelligence and of humanity ought to say, Amen, so mote it be. But there is no danger. The quack medicines will survive to pay the tax.

Wounds at the Battle at Fort Donelson.—Dr. E. Andrews, of Chicago, who acted as a volunteer surgeon for the relief of the wounded at Fort Donelson, says that the number of wounds in the head was remarkable. In his observations among the dead, lying on the field and in the hospitals,

be noticed, what at first appears strange, that some bullets traversed from above downward, parallel to the axis of the body. This is explained by the fact that in the most hotly contested places the men availed themselves of the shelter afforded by the rotundity of the hills, by lying flat upon the ground. In this position they loaded and fired a large part of the time, when not advancing or retreating. When raising the head to fire that was the only part of the body exposed, and hence the only portion which at certain periods of the contest received injury. As the men lay with the head toward the enemy, the peculiar wound from above occurred.

Accurate statistics of the wounds have not yet been obtained; but Dr. Andrews presents the following record of some of the wounds, from which it will be noticed how great is the preponderance of wounds of the head, being sixty-one cases, including injuries of the face, which is seventeen per cent. of the whole list. If, now, we consider that these were all in hospital, while a large portion of those wounded in the head died at once on the field, and are not reckoned, it will be seen that this roll of injuries was very numerous:—

Wounds of cranium, 14; scalp, 19; eye, 4; jaw, 4; chin, 2; tongue, 1; ear, 3; mouth, 4; other parts of face, 10; neck, 8; fractures of shoulder, 13; arm, 16; wounds of shoulder, 30; arm, 27; elbow, 4; fractures of forearm, 4; wounds of forearm, 4; fractures of hand, 25; wounds of hand, 11; chest, penetrating cavity, 10; not penetrating, 10; back, 5; abdomen, 7; fractures of hip, 7; wounds of hip, 8; fractures of thigh, 9; wounds of thigh, 37; fractures of knee, 2; wounds of knee, 7; fractures of leg, 9; wounds of leg, 27; fractures of foot, 4; wounds of foot, 2; powder burns, 3.

The same occurrence of wounds, in a vertical direction through the cranium, has been repeatedly noticed in battles of recent times. In one instance recorded in the Crimea, the ball entered at the vertex of the cranium, traversed the neck, back, buttock and thigh, and escaped near the knee.

Bellevue Hospital Medical College, New York.
—The first annual commencement of this college took place on Monday evening, March 17th, in the presence of a large and select audience. The following gentlemen successively received their diplomas upon the administration of the Hippocratic oath:—

Agustin Alvarez, Cuba; George M. Bower, Illinois; Josiah O. Cramton, M.D., Vermont; J. Wilbur Curtis, Massachusetts; Walter Caswell, Ohio; Jared W. Daniels, Minnesota; Clarence Ewen, New York; James F. Ferguson, M.D., U. S. A.; Francis Stanley Grimes, M.D., New York; Van Buren Hubbard, New York; Lucius B. Irish, M.D., New York; William H. King, New Jersey; Emelio L. Luaces, Cuba; Jacob B. Luce, New York; Lewis J. Lyman, Illinois; John B. McCaffrey, New York; Emelio L. Mola, Cuba; Jean Oscar Parmel de Marmon, New York; Edgar Olcott, Jr., New Jersey; Henry Raphael, New York; Elijah Rowell, M.D., Canada; Thomas J. Swisher, Pennsylvania; Orsamus Smith, New York; John Struthers, Nova Scotia; Lewis T. Trumbower, Pennsylvania; David Warman, New Jersey; James H. Williamson, A.M., M.D., Ohio; John C. Williamson, M.D., Ohio.

The occasion was made one of great interest and profit by addresses from Dr. Taylor, the President of the institution; Dr. Geo. T. Elliot, one of the professors; Mr. S. Draper, of the Board of Trustees; Mr. Hubbard, of the graduating class; and Rev. Dr. Chapin, of the clerical order.

The number of students in attendance during the session has been over one hundred, which, for an institution opened at "a time when the national calamity was the greatest," is in the highest degree flattering to its board of instruction, and encouraging to all its friends.

The first regular course of clinical lectures in New York was commenced in Bellevue Hospital in 1847, and was listened to, it is said, by the house staff and one student. Now, the benefits of clinical instruction are universally acknowledged, and deemed indispensable to the complete education of the practitioner.

The graduating class of the Massachusetts Medical College testified their esteem for the janitor of the college, Mr. W. B. Andrews, by sending him an elegant cake-basket.

Correspondence.

DOMESTIC CORRESPONDENCE.

KANKAKEE CITY, ILLINOIS, March, 1862.

MESSRS. EDITORS:—The following facts having come under my observation, I pen them under the conviction that they may prove of interest to the profession. Some time in January, 1857, a man in this place, by the name of John Franklin, was bitten by his own dog, as was also his little child aged three years. A few days subsequently the child became ill, and when fluids were offered would sometimes try (though ineffectually) to swallow; at other times appear almost overcome with fear at the sight of them, and would suddenly cover her head with the bedclothes, or go into spasms. I saw the case once with the attending physician, and learned from him subse-

quently that she died in convulsions. A post mortem was requested by the parents, who, I learned, were not satisfied in regard to the alleged cause of her death. The lungs were engorged, and inflammation of the larynx, trachea, and bronchial tubes existed to a slight extent. The brain and viscera of the abdomen were apparently in a normal condition. We were confirmed in the opinion that our diagnosis was correct; but failed to convince the parents that the child died of hydrophobia. Last fall the father of the child enlisted, I think in Company G, 20th Regiment I. S. V. While stationed at Cairo he was suddenly taken ill, and exhibited all the symptoms of the disease which proved fatal to his child. The attending surgeon at once pronounced it a case of hydrophobia, and then learned from him the facts just narrated.

From the facts in this case, we learn that nearly three years and nine months elapsed from the time he was bitten ere the disease was developed.

J. M. MACK.

ARMY CORRESPONDENCE.

An Improvement on Pirogoff's Operation Suggested.

U. S. GENERAL HOSPITAL, FORT MONROE, VA.,
March 19th, 1862.

GENTLEMEN:—I desire, through the columns of your *weekly*, to propose to the profession an improvement in the method of performing Pirogoff's operation, as follows: Make an incision from the posterior margin of one malleolus to the other, by cutting from within outward, closely hugging the os calcis, and transfixing the planar mass; then raise a flap from the dorsum of the foot of sufficient size, and reflect it as far as the articular extremity of the tibia, which proceed to saw off *at once*, with the fibular projection; then pass the knife closely behind the ankle-joint, and clear the os calcis of soft parts, far enough back to saw obliquely forward and downward, and the bony flap will fit without force. After many operations on the cadaver, I have found this the most convenient method of performing the operation, avoiding, as it does, the necessity for disarticulation, and the very troublesome step of removing the extremity of the tibia after the foot has been detached.

Respectfully yours,

REED B. BONTECOU, *Brigade Surgeon.*

P.S.—Our sick report shows a less number than at any time since October last.

NEWS AND MISCELLANY.

Spring and Summer Courses of Instruction.—Circulars have been received of spring and summer courses in this city on the following specialties:—

MEDICAL CHEMISTRY.—Dr. J. J. Reese gives a course of lectures and practical manipulations in medical chemistry, continuing during the spring and summer months. Students have the opportunity of manipulating for themselves, and of practicing the various tests. Dr. Reese has been for a long time a prominent teacher in this department.

PRACTICAL OBSTETRICS.—Dr. E. Wilson's course, in connection with the Philadelphia Lying-in Charity, continues about three months. It includes lectures and demonstrations on the principles of obstetric science, and the practical details of the art of midwifery, and practical opportunities in attending obstetric cases are given to pupils when properly qualified.

About *five hundred* obstetric cases are thus assigned to the class, under the supervision of the principal and his assistants. This course has been long established, and is extensively patronized.

Army Hospitals in Philadelphia.—There are already six hospitals in this city, containing about 1400 patients. The number, however, is constantly changing, from constant arrival and departure. The location of these hospitals, and Surgeons in charge, are as follows:—

HOSPITAL, BROAD STREET.—Beds for patients, 626; Surgeon in charge, Dr. John Neil; Assistant-Surgeons, Drs. H. C. Yarrow, H. M. Bellows, H. Allen, George McGill, W. R. D. Blackwood.

HOSPITAL, CHRISTIAN STREET.—Beds, 78; Surgeon in charge, Dr. John J. Reese; Assistant-Surgeon, Dr. D. Burpee.

HOSPITAL, WOOD AND TWENTY-SECOND STREETS.—Beds, —; Surgeon in charge, Dr. C. W. Horner; Assistant-Surgeons, Drs. Lineaweaver, Gordon, S. H. Hornor.

HOSPITAL, SOUTH AND TWENTY-FIFTH STREETS.—Beds, 200; Surgeon in charge, Dr. Jos. Hopkinson; Assistant-Surgeons, Drs. Gibbs, Tryon, W. B. Atkinson.

HOSPITAL, FIFTH AND BUTTOWOOD STREETS.—Beds, 275; Surgeon in charge, Dr. Bournonville; Assistant-Surgeons, Drs. R. J. Dunglison, W. M. Breed.

HOSPITAL, SUMMIT HOUSE.—Beds, —; Surgeon in charge, Dr. Winthrop Sargent; Assistant-Surgeon, Dr. J. M. Fox.

Some 400 have arrived in a single day, and they are all properly cared for. The kindness of our citizens toward the sufferers is unremitting, and delicacies of many kinds are incessantly showered upon them in profusion—so much so, that the Surgeons find it necessary to adopt some stringent rules to prevent injury to the sick from the free use of the delicacies.

Philadelphia Almshouse.—Drs. J. H. Jarmar, C. S. Benton, F. F. Maury, H. C. Wood, C. H. Boardman, R. M. Girvin, J. W. Burnet, and J. E. Owens were elected Resident Physicians to the Almshouse, on Monday last. The Hospital Committee were directed in no case to grant leave of absence to a resident physician for more than two weeks at a time, unless from sickness or other uncontrollable circumstances.

Massachusetts Medical College.—On Wednesday, March 12th, thirty-eight gentlemen received the degree of Doctor of Medicine at the Massachusetts Medical College. The Commencement exercises were opened by a prayer by the Rev. Dr. Peabody, and after the reading of the selected dissertations by several of the candidates, the degrees were conferred by Professor Holmes. Of the dissertations, all of which were of uncommon merit, three deserved especial notice—that on *Veratrum Viride*, by Samuel W. Abbott, of Woburn; on *Pneumonia*, by Charles Henry Munro, of Pictou, N. S.; and on *Disorders of the Dental Structures causing Distant Neuralgia, without Local Pain*, by William Nichols, Jr., of Brookline. The address to the graduates, by Professor Bacon, was of unusual interest, and was listened to by a large audience, including the Governor, the Hon. Edward Everett, and other distinguished persons.

The following are the names of the graduates :

Samuel W. Abbott, Woburn; Melbourne E. Balcom, Paradise, N. S.; Joseph B. Baxter, Gorham, Me.; William L. Bond, Charlestown; Llewellyn Brown, Norridgewock, Me.; Frank E. Bundy, Boston; John H. Clark, Amherst, N. H.; Augustus P. Clarke, Bristol, R. I.; Joseph F. Coolidge, Westminster; Homer C. Truro, N. S.; Samuel A. Davis, Bridgeton, Me.; Thomas M. Drummond, Kingston, Jamaica; Daniel Farrar, Troy, N. H.; William L. Faxon, Quincy; William K. Fletcher, Claremont, N. H.; William B. Gibson, Boston; Samuel L. Gould, Jr., Albany, Me.; Nathaniel Greene, Jr., Boston; Horace P. Hemenway, Somerville; John Homans, Boston; Smith A. Jenkins, Chatham, N. Y.; Daniel F. Leavitt, South Danvers; John K. Lewis, Constantia, Ohio; William H. Macdonald, Antigonish, N. S.; Charles H. Munro, Pictou, N. S.; William Nichols, Jr., Brookline; James T. Paine, Charlestown; Joseph B. Reynolds, Concord; Michael Roberts, Lawrence; Benjamin W. Robinson, Marlborough; James D. Ross, Truro, N. S.; Edward M. Skinner, St. John, N. B.; George L. Smalley, Quincy; Charles Sturtevant, Newton; Charles H. White, Watertown; Joshua G. Wilbur, Boston; Albert Wood, Northborough; Warren A. Wright, Norridgewock, Me.

We are glad to hear that the number of students during the last year has been larger than at any previous time—a fact, when we consider the present condition of affairs, which shows the deservedly high reputation of the school throughout this portion of the country.—*Boston Med. Jour.*

Extraordinary Longevity.—The obituary of the *Times* has lately contained some marvelous instances of old age; for example, on the 20th ult. are recorded the deaths of five ladies and two gentlemen, whose united ages amounted to 629 years, giving an average of 89 years and 6 months for each; the youngest, a woman, being 82, and the oldest, also of the same sex, having reached the extraordinary age of 103 years. Again, in the above paper of the 25th ult., appears the death of another lady aged 103 years, having three sons aged 75, 77, and 79, twenty-four grandchildren, fifty-one great-grandchildren, and two great-great-grandchildren.

Death of a Surgeon.—Dr. W. N. Lane, a native of Pepperell, Massachusetts, and Surgeon in the United States Navy, arrived in New York on Thursday last, from Key West, in the *Rhode Island*, and died of consumption the following Saturday, at four and a quarter p.m., in his apartments at the La Farge House. When the rebellion broke out, Dr. Lane left a large and lucrative practice in Boston, and enlisted in his country's service—from the duties of which death has so soon relieved him. His age was forty-two years.

Clinical Instruction in San Francisco.—The students of the Medical department of the University of the Pacific will, in future, enjoy the benefits of clinical instruction to the fullest extent. The City and County Hospital, constantly filled with interesting cases, composing nearly every form of disease to which our coast is subject, is now open to them. The St. Mary's Hospital, under the supervision of the ever-zealous and self-sacrificing Sisters of Charity, which bids fair to be one of the noblest and most prosperous institutions for the sick, will, as we are assured by one of the attending physicians, admit the class, during the last half of the present session, and, after that time, continuously during future sessions. These, associated with the surgical clinics of the Pacific Clinical Infirmary, constitute an amount of bedside instruction seldom afforded to medical students.

Report of the Surgeon-General.—We have received the annual reports of the Adjutant-General of Massachusetts, together with those of the Surgeon-General, Commissary-General, Master of Ordnance, and Military Committee of the Council, for 1861. The report of the Surgeon-General comprises sixteen pages, and for brevity and clearness is most commendable. It appears that the whole cost of medicines and hospital stores since the commencement of the war in all the regiments, while in camp in this State, to November 7th, was \$1862 07; the cost of the same for the three months' outfit, \$8719 25; the outfit for surgical instruments, dressings, furniture, etc., \$12,102 40; making, after deducting the amount returned by the three months' volunteers, a total of \$22,441 60. The amount paid for the examination of recruits and medical attendance was \$1732 05.

It is a source of pride and satisfaction that the appointments to the medical corps have been generally such as to reflect credit and honor on our State; and we are not surprised at the relatively small amount of sickness among Massachusetts troops. This exemption from diseases incident to armies, Dr. Dale attributes to the generally healthy character of the season, "the prudent oversight in the selection of camps, the faithfulness and efficiency of the commissariat, and the general intelligence which characterizes the material of our volunteer force; but mainly to the untiring watchfulness and fidelity of the regimental surgeons, and their care and vigilance in all matters pertaining to the hygienic and sanitary condition of the camps." There has been no prevalent form of epidemic disease in the

camps situated in our own State; and the number of acute disease has also been unprecedentedly small, and all of a mild type. On the whole, the condition of our soldiers, as shown by this report, is of itself a sufficient proof of the energy, judgment, and efficiency of our Surgeon-General and of the medical officers under him, no less than twelve of whom have been appointed to brigades since the commencement of the war, and nearly all of whom command the respect of both officers and men.—*Boston Med. and Surg. Journal.*

Health of the Troops in Canada.—The reports which reach us of the careful medical supervision of the troops for Canada, and the consequent good health of the men dispatched thither, are of a kind which must be in the highest degree satisfactory to the nation, and honorable to the head of the Army Medical Department and the medical officers of the Canadian Depot who have acted under his orders. The precautions taken were indeed extraordinary. Each man had served out to him the following amount of extra clothing: two pairs of woolen drawers, two pairs of worsted stockings, two merino under-vests, one chambray-leather waistcoat, one Jersey, one pair of sealskin mitts, one sealskin cap with ear-muffler, one sheepskin overcoat, and one pair of Canadian boots; also for the sleigh, in addition, one pair of fur and buffalo robes. The transit in ships was arranged with perfection, and when the men arrived they found the most elaborate and thoughtful provision for their comfort and protection from the cold. Dr. McIlree, the Deputy-Inspector-General of Hospitals in Canada, with the assistance of Surgeon Major Wood, appears to have carried out the instructions received from Dr. Gibson, the Director-General of the Army Medical Department, with zeal and intelligence. Stations were provided every thirty miles along the route, and small hospitals for the sick were fitted up. Further arrangements were made, where advisable, at farmhouses on the road, for the reception of stragglers, and small depots for medicines and medical comforts. Huts were erected for sleeping, properly warmed, ventilated, and planked; and thus the men were well lodged, and preserved from the demoralization consequent upon being mixed up with the civil population. Dr. Muir, with Dr. Rutherford, (the sanitary officer,) went over the route before the troops, and put the finishing touch to the arrangements. The men had warm coffee and a meat breakfast, hot rum and water with their lunch, and hot coffee with their supper. Their rations were increased to the degree which the greater demands of cold required. Thus it was ordered by the home authorities that the daily ration of fresh meat should be increased up to a pound and a quarter, or, if necessary, a pound and a half. Valuable general sanitary directions were circulated, and the medical officers were warned to be on their guard against pneumonia. The general results as to health have been, up to the present time, excellent. We believe that the ratio of sickness to strength has scarcely amounted to

two per cent. This is a result which shows that the Medical Department has merited well of the country, and has performed a difficult duty with entire success.—*Lancet.*

Dangerous Fashionable Follies.—An analysis of green artificial flowers has been made by Professor Hofmann, for the Ladies' Sanitary Association. He says:—

"In a dozen of the leaves sent me analysis has pointed out on an average the presence of ten grains of white arsenic. I learn from some lady friends that a ball-wreath usually contains about fifty of these leaves. Thus a lady wears in her hair more than forty grains of white arsenic, a quantity which, if taken in appropriate doses, would be sufficient to poison twenty persons. This is no exaggeration, for the leaves sent to me were—some of them at least—only partly colored, others only variegated. In consequence of some inquiries, I have been led lately to pay more than usual attention to the head-dresses of ladies, and I observe that the green leaves are often much larger and more deeply colored than those which I have received.

"Ladies cannot, I think, have the remotest idea of the presence of arsenic in their ornaments. If aware of their true nature, they would be satisfied with less brilliant colors, and reject, I have no doubt, these showy green articles, which have not even the merit of being, as far as coloring is concerned, a truthful imitation of nature. There being no longer a demand for them, the manufacture of poisonous wreaths and poisonous dresses would rapidly cease as a matter of course."—*Dublin Medical Press.*

A table has just been published in a Paris journal, classifying the population of the French empire by sex and position, according to the census taken in 1861. The total population of the eighty-nine departments amounts to 37,382,325, of whom 18,642,604 are males, and 18,739,721 females. There are 10,210,856 bachelors, 7,503,024 married men, 928,724 widowers, 9,487,541 spinsters, 7,457,115 married women, and 1,795,065 widows.—*Dublin Medical Press.*

MARRIED.

HALL—LANE.—In New York, on the 19th inst., by the Rev. S. H. Platt, George W. Hall, M.D., and Emma M., eldest daughter of James Lane, Esq.

DIED.

GARDNER.—In West Chester, March 23d, Frank P. Gardner, United States Navy, son of Dr. Joseph Gardner, aged 25 years.

LEVIS.—On the 23d inst., in this city, Mary Henry Levis, daughter of Dr. R. J. and Henrietta R. Levis, aged two years and five months.

MANLEY.—In Long Island City, N. Y., on the 10th inst., Garret V. Manley, M.D., in the 39th year of his age. He died very suddenly from disease of the heart.

McCLELLAN.—On Sunday, March 23d, Emily, youngest daughter of the late Samuel McClellan, M.D., of Philadelphia, aged 13 years, 4 months, and 10 days.

STOUT.—In Princeton, New Jersey, on the 26th of February, after a short but severe illness, Wessel Ten Broeck Stout, M.D., son of the late Richard M. Stout, of Allentown, N. J.

